UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,697	04/18/2006	Marian Trinkel	20811/0204765-US0	1949

7278   7590   08/19/2009
DARBY & DARBY P.C.
P.O. BOX 770
Church Street Station
New York, NY 10008-0770

EXAMINER
ARCHER, CHRISTOPHER B

ART UNIT	PAPER NUMBER
2432	

MAIL DATE	DELIVERY MODE
08/19/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _21 July 2009_.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-20_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on _04/18/2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection.   Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 07/21/2009 has been entered.

Claim Rejections - 35 USC § 103

2.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

3.   Claims 1-3, 9-11, 15-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hartman Jr. (5,444,780), hereafter referred to as Hartman, in view of Fruehauf

et al. (US 6,590,981), hereafter referred to as Fruehauf, and further in view of Sinha et al. (US

6,944,188), hereafter referred to as Sinha.

> **Regarding claim 1:** A system in which a central system receives a time signal
>
> request, encrypts the time signal using a key, transmits the encrypted time signal to the
>
> requesting user, and provides the network user with the same key can be seen in
>
> **Hartman column 4, lines 54-56, 66-68; column 5, lines 28-43**, which discloses a client
>
> computer requesting a time signal from a recognized server. The server responds to the
>
> request by sending an encrypted time signal to the client. The client then decrypts the
>
> time signal using the same key that the server used to encrypt it.

Hartman fails to explicitly disclose synchronously generating a key using a respective clock system of the central system and of the network user uniquely assigned to the network user.

However, **Fruehauf column 2, lines 14-34; column 4, lines 22-64** discloses a system that generates keys synchronously at two different locations.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Hartman to synchronously generate symmetric keys, as taught in Fruehauf, in order to prevent the loss or rejection of valid data.

Hartman and Fruehauf fail to disclose a clock system in which clocks at both the central system and the network user are uniquely assigned to each other.

However, **Sinha column 4, lines 20-23; column 5, lines 51-56, 63-64** discloses a system in which a plurality of clock pairs, in the form of master and slave clocks, are commonly used across a network.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Hartman to allow clocks to be paired in master and slave pairs, as taught by Sinha, so that separate clock pairs may be synchronized by different techniques.

Regarding claims 2 and 19: A system that dynamically changes symmetric keys after a predetermined period of time can be seen in **Fruehauf column 2, lines 7-10, 14-34**, which discloses a cryptographic communication system with time synchronized keys

that change after a predetermined period of time, being used for encryption and decryption between sender and receiver locations.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Hartman to dynamically change symmetric keys, as taught in Fruehauf, as changing keys creates an extremely high entry barrier for hackers, and changing keys synchronously at two different communication points.

Regarding claims 3 and 11: Hartman fails to explicitly disclose a system that synchronously generates keys using a respective clock system of the central system and of the network user uniquely assigned to the network user.

A system that synchronously generates keys at two different locations can be seen in **Fruehauf column 2, lines 14-34; column 4, lines 22-64**.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Hartman to synchronously generate symmetric keys, as taught in Fruehauf, in order to prevent the loss or rejection of valid data.

Hartman and Fruehauf fail to disclose a clock system in which clocks at both the central system and the network user are uniquely assigned to each other.

However, **Sinha column 4, lines 20-23; column 5, lines 51-56, 63-64** discloses a system in which a plurality of clock pairs, in the form of master and slave clocks, are commonly used across a network.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Hartman to allow clocks to be paired in master and

slave pairs, as taught by Sinha, so that separate clock pairs may be synchronized by different techniques.

Regarding claim 9: A central system with a network user, wherein the central system encrypts a time signal, sends the time signal to the user, and the user decrypts the key can be seen in **Hartman column 4, lines 54-56; column 5, lines 28-43**, which discloses a system with a server coupled to a client. The server encrypts the time information and sends it to the client for decryption.

However, **Fruehauf column 2, lines 14-34; column 4, lines 22-64** discloses a system that generates keys synchronously at two different locations.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Hartman to synchronously generate symmetric keys, as taught in Fruehauf, in order to prevent the loss or rejection of valid data.

Hartman and Fruehauf fail to disclose a clock system in which clocks at both the central system and the network user are uniquely assigned to each other.

However, **Sinha column 4, lines 20-23; column 5, lines 51-56, 63-64** discloses a system in which a plurality of clock pairs, in the form of master and slave clocks, are commonly used across a network.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Hartman to allow clocks to be paired in master and slave pairs, as taught by Sinha, so that separate clock pairs may be synchronized by different techniques.

Regarding claim 10: A system in which the central system includes a time signal transmitter can be seen in **Sinha column 3, lines 5-11; column 7, line 61 to column 8, line 3; Fig. 3**, which discloses a system that uses a transmitter as part of the master clock.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teaching of Hartman to include a signal transmitter, as taught by Sinha, in order to allow for a communications over a wider area.

Regarding claim 15: A system in which a user decrypts an encrypted time signal can be seen in **Hartman column 5, lines 38-43**, which discloses a system where the client decrypts the encrypted time signal that it received from a secure time server.

Regarding claims 16, 17, and 20: A system in which the central system is a certified central system can be seen in **Fruehauf column 3, line 47 to column 4, line 15**, which discloses a system that uses officially recognized time sources to generate a time signal.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teaching of Hartman to only use officially recognized time sources, as taught by Fruehauf, in order to prevent potentially erroneous or malicious data from being entered into the secure system.

4.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman in view

of Fruehauf, in view of Sinha, in view of Crane et al. (US 6,510,236), hereafter referred to as

Crane.

Regarding claim 4: A system where the central server receives a time-signal

request from the network user can be seen in **Hartman column 4, lines 54-56, 66-68;**

column 5, lines 28-43, which discloses a client computer requesting a time signal from a

recognized server.

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the teaching of Hartman to only use officially recognized time

sources, as taught by Fruehauf, in order to prevent potentially erroneous or malicious data

from being entered into the secure system.

However, Hartman, Fruehauf, and Sinha fail to explicitly disclose a system that

determines, by the central system, a clock system assigned to the network user using a

transmitted identifier, wherein the transmitted identifier is the network address of the

network user.

However, **Crane column 4, line 48 to column 5, line 36** discloses a system in

which a device-id is used to locate the corresponding server.

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the teaching of Hartman to use a device's corresponding id, as taught

by Crane, as the device's id is known by both parties and can easily be used to generate

corresponding symmetric keys.

5.   Claims 5-8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Hartman in view of Fruehauf, in view of Sinha, and further in view of Hartman, in view of

Fruehauf, in view of Sinha, and further in view of Kara (US 5,982,506), hereafter referred to as

Kara.

Regarding claim 5: Hartman and Fruehauf fail to explicitly disclose a system

that transmits the time signal and the data from the first network user to the second

network user using one of directly and indirectly via the central system.

However, **Kara column 19, lines 19-31** discloses a system in which a sender and

a receiver communicate directly with one another without the intervention of a central

system.

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the teachings of Hartman to allow the sender and receiver to

communicate with each other without relying on a central system, as taught in Kara, to

hasten transaction speed between the two devices.

Kara column 4, lines 25-56 discloses an invention that sends a message from a

sender to a receiver via a certification system.

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the teachings of Hartman to send a message indirectly through a

central system, as taught by Kara, so that the send time may be verified and certified by

an external third party.

Regarding claim 6: A system in which the first network user encrypts at least one of the data and the time signal during transmission can be seen in **Kara column 4, lines 43-48; column 7, lines 43-45**, in which the electronic document and/or the cipher containing the timestamp may be encrypted.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Hartman to encrypt the electronic document containing the timestamp, as taught by Kara, to prevent potentially erroneous or malicious data from entering into a secure system.

Regarding claim 7: A system in which the central system can be provided at the second network user can be seen in **Kara column 25, lines 47-61**, in which the certification and key distribution authority can be located at the receiving location.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Hartman to allow the central system to be located at the second network user, as taught by Kara, in order to hasten the key generation process and ensure symmetric key coordination.

Regarding claim 8: A system in which the central system returns an acknowledgment to the network user can be seen in **Kara column 4, line 65 to column 5, line 22**, in which the receiver sends an acknowledgement message to the certification program which forwards the acknowledgement to the sender upon successful verification.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teaching of Hartman to forward an acknowledgement message to the sender, as taught by Kara, in order to allow the sender to re-transmit a message if it was not received by the receiver.

Regarding claim 12: A system in which the central system can be provided at the second network user can be seen in **Kara column 25, lines 47-61**, in which the certification and key distribution authority can be located at the receiving location.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Hartman to allow the central system to be located at the second network user, as taught by Kara, in order to hasten the key generation process and ensure symmetric key coordination.

Regarding claim 13: A system in which the central system returns an acknowledgment to the network user can be seen in **Kara column 4, line 65 to column 5, line 22**, in which the receiver sends an acknowledgement message to the certification program which forwards the acknowledgement to the sender upon successful verification.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teaching of Hartman to forward an acknowledgement message to the sender, as taught by Kara, in order to allow the sender to re-transmit a message if it was not received by the receiver.

Regarding claim 14: A system in which the central system returns an acknowledgment to the network user can be seen in **Kara column 4, line 65 to column 5, line 22**, in which the receiver sends an acknowledgement message to the certification program which forwards the acknowledgement to the sender upon successful verification.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teaching of Hartman to forward an acknowledgement message to the sender, as taught by Kara, in order to allow the sender to re-transmit a message if it was not received by the receiver.

6.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hartman in view of Fruehauf, in view of Sinha, in view of Crane, and further in view of Friedman et al. (US 2002/0019933), hereafter referred to as Friedman.

Regarding claim 18: Hartman, Fruehauf, Sinha, and Crane fail to explicitly disclose that the key is generated using at least one of the assigned clock and the transmitted identifier.

However, **Friedman [0101]** discloses a system in which a key is derived using information unique to the particular requesting device.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teaching of Hartman to use a device's corresponding id, as taught by Friedman, as the device's id is known by both parties and can easily be used to generate corresponding symmetric keys.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER B. ARCHER whose telephone number is (571) 270-7308. The examiner can normally be reached on M-F 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on (571) 272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

/CHRISTOPHER B ARCHER/
Examiner, Art Unit 2432

/Gilberto Barron Jr./
Supervisory Patent Examiner, Art Unit 2432